```
                    GenCore version 5.1.6
          Copyright (c) 1993 - 2005  Compugen Ltd.

OM protein - protein search, using sw model

Run on:     February 16, 2005, 16:16:11 ; Search time 9.04128 Seconds
                               (without alignments)
                               2330.584 Million cell updates/sec

Title:        US-10-003-356-2
Perfect score: 1138
Sequence:     1 MFERRKEQDEGPGIHEFLAF........RVIASDKIQSKAVVKRIQHF 219

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Database :    PIR_79:*
              1: pir1:*
              2: pir2:*
              3: pir3:*
              4: pir4:*

Searched:     283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters:       283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries
```

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	353	31.0	1078	2	A56715	calcium receptor (
2	353	31.0	1088	2	B56715	calcium receptor (
3	351	30.8	1079	2	I59362	calcium/polyvalent
4	349	30.7	1085	2	S40476	Ca(2+)-sensing rec
5	239.5	21.0	1218	2	S71376	glutamate receptor
6	234.5	20.6	879	2	JC7160	metabotropic gluta
7	227	19.9	1180	2	JC2132	metabotropic gluta
8	227	19.9	1212	2	JC2131	metabotropic gluta
9	225.5	19.8	908	2	I49142	metabotropic gluta
10	224.5	19.7	1171	2	A42916	metabotropic gluta
11	222.5	19.6	912	2	JH0563	metabotropic gluta
12	221.5	19.5	879	2	JH0562	metabotropic gluta
13	220.5	19.4	915	2	A49874	metabotropic gluta
14	217.5	19.1	858	2	JC7683	taste receptor T1R
15	215	18.9	1199	2	A41939	G protein-coupled
16	203.5	17.9	872	2	JH0561	metabotropic gluta
17	191	16.8	871	2	A46742	metabotropic gluta
18	177.5	15.6	1267	2	T21340	hypothetical prote
19	176	15.5	999	2	T27628	hypothetical prote
20	86.5	7.6	921	2	T51136	ionotropic glutama
21	86.5	7.6	923	2	F84732	probable ligand-ga
22	85.5	7.5	442	2	T33246	hypothetical prote
23	84.5	7.4	642	2	G64605	iron(II) transport
24	84	7.4	960	2	A71315	excinuclease ABC c
25	83.5	7.3	303	2	A64423	modification methy
26	82	7.2	294	2	S59774	probable membrane
27	81.5	7.2	172	2	H71112	hypothetical prote
28	81	7.1	500	2	C69428	hypothetical prote
29	81	7.1	960	2	JB0356	gamma-aminobutyric
30	80.5	7.1	458	1	NICLMB	nitrogenase (EC 1.
31	80	7.0	231	2	T49830	hypothetical prote
32	80	7.0	570	2	F70332	proline-tRNA synth
33	79.5	7.0	296	2	B53434	cell surface glyco
34	79.5	7.0	335	2	A53434	cell surface glyco
35	79.5	7.0	501	2	A69415	conserved hypothet
36	79.5	7.0	654	1	P4XRBV	minor inner core p
37	79.5	7.0	1240	1	DJBB21	DNA-directed DNA p
38	78.5	6.9	990	2	F88925	protein T22H9.3 [i
39	78	6.9	933	2	C96495	probable ligand-ga
40	78	6.9	940	2	A82329	excinuclease ABC c
41	77.5	6.8	642	2	D71909	ferrous iron trans
42	77.5	6.8	970	2	C84488	hypothetical prote
43	77	6.8	441	2	H97112	probable rRNA meth
44	76.5	6.7	294	2	T20338	hypothetical prote
45	76.5	6.7	306	2	F72606	probable methanol

ALIGNMENTS

```
RESULT 1
A56715
calcium receptor (clone phPCaR-4.0) - human
C;Species: Homo sapiens (man)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 01-Dec-2000
C;Accession: A56715; S49341; A49419; B49419; C49419
R;Garrett, J.E.; Capuano, I.V.; Hammerland, L.G.; Hung, B.C.P.; Brown, E.M.; Hebert, S.C.
J. Biol. Chem. 270, 12919-12925, 1995
A;Title: Molecular cloning and functional expression of human parathyroid calcium recep.
A;Reference number: A56715; MUID:95279439; PMID:7759551
A;Accession: A56715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1078 <GAR>
A;Cross-references: GB:U20759; NID:g683744; PIDN:AAA86503.1; PID:g683745
R;Pearce, S.H.S.; Thakker, R.V.
submitted to the EMBL Data Library, August 1994
A;Reference number: S49341
A;Accession: S49341
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-180,'Q',182-989,'R',991-1078 <PEA>
A;Cross-references: EMBL:X81086
R;Pollak, M.R.; Brown, E.M.; Chou, Y.H.; Hebert, S.C.; Marx, S.J.; Steinmann, B.; Levi,
Cell 75, 1297-1303, 1993
A;Title: Mutations in the human Ca(2+)-sensing receptor gene cause familial hypocalciur
A;Reference number: A49419; MUID:94094324; PMID:7916660
A;Accession: A49419
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 178-192 <POL>
A;Experimental source: family N
A;Note: sequence inconsistent with nucleotide translation
A;Note: sequence modified after extraction from NCBI backbone
A;Note: 186-Arg mutation is associated with familial hypocalciuric hypercalcemia and ne
A;Note: sequence extracted from NCBI backbone (NCBIN:142453)
A;Accession: B49419
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 289-303 <PO2>
A;Experimental source: family B
A;Note: sequence modified after extraction from NCBI backbone
A;Note: 298-Lys mutation is associated with familial hypocalciuric hypercalcemia and ne
A;Note: sequence extracted from NCBI backbone (NCBIN:142455)
A;Accession: C49419
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 788-802 <PO3>
A;Experimental source: family J
A;Note: sequence modified after extraction from NCBI backbone
A;Note: 796-Trp mutation is associated with familial hypocalciuric hypercalcemia and ne
A;Note: sequence extracted from NCBI backbone (NCBIN:142457)
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C;Keywords: glycoprotein; receptor; transmembrane protein

Query Match   31.0%; Score 353; DB 2; Length 1078;
Best Local Similarity   37.1%; Pred. No. 7e-25;
Matches   78; Conservative   44; Mismatches   64; Indels   24; Gaps   5;

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Qy   18  LAFLW--AELGSEAKEKEBERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE  74
             :: ||||      :.|:    :      ::|||||||
Db   11  LALTWHTSAYGPDQRAQKKGD-----------IILGGLFPIHFGVAAKDQDLKSR  54

Qy   75  PASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF  134
             |||||  :||| |||:||||    |:||||:|||||:|||||||
Db   55  PESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNLTLGYRIFDTCNTVSKALEATLSF  114

Qy  135  LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL  189
             :|::|     ||:||||||    | ||:|||||| |:  :|     |:|
Db  115  VAQNKIDSLNLDBFCNCSEHIPSTIAVGGSGVSTAVANLLGLFYIPQVSYASSSRLL  174

Qy  190  SDKYQFPSYLRVIASDKIQSKAVVKRIQHF  219
             |:|:|||    |:|:|:|  :  |:
Db  175  SNKNQFKSFLRTIPNDEHQATAMADIIEYF  204
```

RESULT 2
B56715
calcium receptor (clone phPCaR-5.2) - human
C;Species: Homo sapiens (man)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 21-Jul-2000
C;Accession: B56715
R;Garrett, J.B.; Capuano, I.V.; Hammerland, L.G.; Hung, B.C.P.; Brown, E.M.; Hebert, S.C
J. Biol. Chem. 270, 12919-12925, 1995
A;Title: Molecular cloning and functional expression of human parathyroid calcium recept
A;Reference number: A56715; MUID:95279439; PMID:7755551
A;Accession: B56715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1088 <GAR>
A;Cross-references: GB:U20760; NID:g683746; PIDN:AAA86504.1; PID:g683747
C;Keywords: glycoprotein; receptor; transmembrane protein

Query Match   31.0%; Score 353; DB 2; Length 1088;
Best Local Similarity   37.1%; Pred. No. 7e-25;
Matches   78; Conservative   44; Mismatches   64; Indels   24; Gaps   5;

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Qy   18  LAFLW--AELGSEAKEKEBERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE  74
             :: ||||      :.|:    :      ::|||||||
Db   11  LALTWHTSAYGPDQRAQKKGD-----------IILGGLFPIHFGVAAKDQDLKSR  54

Qy   75  PASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF  134
             |||||  :||| |||:||||    |:||||:|||||:|||||||
Db   55  PESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNLTLGYRIFDTCNTVSKALEATLSF  114

Qy  135  LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL  189
             :|::|     ||:||||||    | ||:|||||| |:  :|     |:|
Db  115  VAQNKIDSLNLDBFCNCSEHIPSTIAVGGSGVSTAVANLLGLFYIPQVSYASSSRLL  174

Qy  190  SDKYQFPSYLRVIASDKIQSKAVVKRIQHF  219
             |:|:|||    |:|:|:|  :  |:
Db  175  SNKNQFKSFLRTIPNDEHQATAMADIIEYF  204
```

RESULT 3
I59362
calcium/polyvalent cation-sensing receptor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
C;Accession: I59362; A55594
R;Ruat, M.; Molliver, M.E.; Snowman, A.M.; Snyder, S.H.
Proc. Natl. Acad. Sci. U.S.A. 92, 3161-3165, 1995
A;Title: Calcium sensing receptor: molecular cloning in rat and localization to nerve te
A;Reference number: I59362; MUID:95241465; PMID:7724534
A;Accession: I59362
A;Status: translated from GB/EMBL/DDBJ

A;Molecule type: mRNA
A;Residues: 1-1079 <RES>
A;Cross-references: UNIPROT:P48442; EMBL:U20289; NID:g790578; PIDN:AAC52195.1; PID:g7905
A;Experimental source: striatal
R;Riccardi, D.; Park, J.; Lee, W.S.; Gamba, G.; Brown, E.M.; Hebert, S.C.
Proc. Natl. Acad. Sci. U.S.A. 92, 131-135, 1995
A;Title: Cloning and functional expression of a rat kidney extracellular calcium/polyval
A;Reference number: A55594; MUID:9511650B; PMID:7816802
A;Accession: A55594
A;Molecule type: mRNA
A;Residues: 1-133, 'X', 135-1079 <RIC>
A;Cross-references: GB:U10354
A;Experimental source: kidney
C;Keywords: calcium; glycoprotein; phosphoprotein; transmembrane protein
F;1-20/Domain: signal sequence #status predicted <SIG>
F;187-212/Region: hydrophobic
F;613-635/Domain: transmembrane #status predicted <TM1>
F;650-670/Domain: transmembrane #status predicted <TM2>
F;683-700/Domain: transmembrane #status predicted <TM3>
F;725-744/Domain: transmembrane #status predicted <TM4>
F;770-790/Domain: transmembrane #status predicted <TM5>
F;806-828/Domain: transmembrane #status predicted <TM6>
F;841-860/Domain: transmembrane #status predicted <TM7>
F;90,261,287,386,468,488,594,893,1005/Binding site: carbohydrate (Asn) (covalent) #statu
F;187-212/Domain: signal sequence #status predicted
F;794/Binding site: phosphate (Ser) (covalent) (by protein kinase C) #status predicted
F;899,901/Binding site: phosphate (Ser) (covalent) (by protein kinase A) #status predict

Query Match   30.8%; Score 351; DB 2; Length 1079;
Best Local Similarity   36.7%; Pred. No. 1.1e-24;
Matches   77; Conservative   45; Mismatches   64; Indels   24; Gaps   5;

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Qy   18  LAFLW--AELGSEAKEKEBERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE  74
             :: ||||      :.|:    :      ::|||||||
Db   11  LALAWHSSAYGPDQRAQKKGD-----------IILGGLFPIHFGVAAKDQDLKSR  54

Qy   75  PASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF  134
             |||||  :||| |||:||||    |:||||:|||||:|||||||
Db   55  PESVECIRYNFRGFRWLQAMIFAIEEINSSPSLLPNMTLGYRIFDTCNTVSKALEATLSF  114

Qy  135  LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL  189
             :|::|     ||:||||||    | ||:|||||| |:  :|     |:|
Db  115  VAQNKIDSLNLDBFCNCSEHIPSTIAVGGSGVSTAVANLLGLFYIPQVSYASSSRLL  174

Qy  190  SDKYQFPSYLRVIASDKIQSKAVVKRIQHF  219
             |:|:|||    |:|:|:|  :  |:
Db  175  SNKNQYKSFLRTIPNDEHQATAMADIIEYF  204
```

RESULT 4
S40476
Ca(2+)-sensing receptor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 09-Jul-2004
C;Accession: S40476
R;Brown, E.M.; Gamba, G.; Riccardi, D.; Lombardi, M.; Butters, R.; Kifor, O.; Sun, A.; H
Nature 366, 575-580, 1993
A;Title: Cloning and characterization of an extracellular Ca(2+)-sensing receptor from b
A;Reference number: S40476; MUID:94077182; PMID:8255296
A;Accession: S40476
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1085 <BRO>
A;Cross-references: UNIPROT:P35384; GB:S67307; NID:g453108; PIDN:AAB29171.1; PID:g453109

Query Match   30.7%; Score 349; DB 2; Length 1085;
Best Local Similarity   42.2%; Pred. No. 1.7e-24;
Matches   73; Conservative   38; Mismatches   56; Indels   6; Gaps   3;

```
Qy   53  LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI  111
             ::||||||      |:    :  ||| |||:||||    |:||||:
Db   33  IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM  92

Qy  112  TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV  166
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```
Db    93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152
         ||||||||||::||:||||   :::||||:::       :||| || :|
Qy   167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
         :||:|||||:|| ||: :||||||||:||||:|| ::| |||| | |:|
Db   153 AVANLLGLFYIPQVSYASSSRRLLSNNKNQFKSFLRTIPNDEHQATAMADIIBYF 205

RESULT 5
S71376
glutamate receptor homolog - cherry salmon
C;Species: Oncorhynchus masou (cherry salmon)
C;Date: 11-Mar-1998 #sequence_revision 17-Apr-1998 #text_change 09-Jul-2004
R;Kubokawa, K.; Miyashita, T.; Nagasawa, H.; Kubo, Y.
FEBS Lett. 392, 71-76, 1996
A;Title: Cloning and characterization of a bifunctional metabotropic receptor activated
A;Reference number: S71376; MUID:9635480; PMID:8769318
A;Accession: S71376
A;Status: not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-1218  <KUB>
A;Cross-references: UNIPROT:Q90ZF3
C;Keywords: glycoprotein; phosphoprotein
F;603-625/Domain: transmembrane #status predicted  <TM1>
F;640-660/Domain: transmembrane #status predicted  <TM2>
F;672-690/Domain: transmembrane #status predicted  <TM3>
F;717-737/Domain: transmembrane #status predicted  <TM4>
F;761-782/Domain: transmembrane #status predicted  <TM5>
F;796-817/Domain: transmembrane #status predicted  <TM6>
F;826-850/Domain: transmembrane #status predicted  <TM7>
F;104,233,403,525,757/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;636,699,961/Binding site: phosphate (Ser) (covalent) (by protein kinase C) #status pre
F;705/Binding site: phosphate (Thr) (covalent) (by protein kinase C) #status predicted
F;892/Binding site: phosphate (Ser) (covalent) (by cAMP-dependent kinase) #status predic

  Query Match    21.0%;     Score 239.5;  DB 2;  Length 1218;
  Best Local Similarity   29.5%;   Pred. No. 4.1e-14;
  Matches   56;  Conservative  46;  Mismatches  57;  Indels  31;  Gaps  6;

Qy    53 LVIGGLFPIDSRTIPANESILEPASAKC---EGFNFQRFRWMKAMIHMIKEINKRKDIL 108
         ||||||||:||||:||: : :|||||||    ::|:|||| : ||||||||||:  ::|
Db    51 IIIGALFSVHHQ--PSTEQV--AERKCGEVREQYGIQR---VEAMFHTLDRINSNPNLL 102

Qy   109 PNITLGYQIFDTCFTISKSVEAVLVFLTG-----QEENR---------PNFRNST 149
         ||||||:| ||| : :|||:::|||| :     :||: |         |: :| |
Db   103 PNITLGCEIRDSCWHSSVALEQSIEFIRDSLISIRDDNKDGTSRQWCIEGMPPSQPPAT 162

Qy   150 GAPPAGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQS 209
         :::::::|||:|  : ||:||||||||:||||||||||||:||||||:|||||||||:||
Db   163 KRPIAGVIGPGSSSVAIQVQNLLQLFNIPQIAYSATSIDLSDKTLFKYFLRVVPSDTLQA 222

Qy   210 KAVVKRIQHF 219
         :||| ::: ::
Db   223 RAILDIVKRY 232

RESULT 6
JC7160
metabotropic glutamate receptor subtype 3 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 04-Mar-2000 #sequence_revision 04-Mar-2000 #text_change 11-May-2000
C;Accession: JC7160
R;Minoshima, T.; Nakanishi, S.
J. Biochem. 126, 889-896, 1999
A;Title: Structural organization of the mouse metabotropic glutamate receptor subtype 3
A;Reference number: JC7160; MUID:20012997; PMID:10544282
A;Accession: JC7160
A;Molecule type: DNA
A;Residues: 1-879  <MIN>
C;Cross-references: GB:AF170696
C;Genetics:
A;Gene: mGluR3
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C;Superfamily: metabotropic glutamate receptor 4
C;Keywords: differentiation; G protein-coupled receptor; receptor; transmembrane protein
F;1-24/Domain: signal sequence #status predicted  <SIG>
F;25-879/Product: metabotropic glutamate receptor subtype 3 #status predicted <MAT>
F;577-599/Domain: transmembrane #status predicted  <TM1>
F;614-634/Domain: transmembrane #status predicted  <TM2>
F;646-664/Domain: transmembrane #status predicted  <TM3>
F;689-709/Domain: transmembrane #status predicted  <TM4>
F;735-756/Domain: transmembrane #status predicted  <TM5>
F;770-791/Domain: transmembrane #status predicted  <TM6>
F;804-828/Domain: transmembrane #status predicted  <TM7>

  Query Match    20.6%;     Score 234.5;  DB 2;  Length 879;
  Best Local Similarity   31.5%;   Pred. No. 8.1e-14;
  Matches   57;  Conservative  36;  Mismatches  63;  Indels  25;  Gaps  5;

Qy    53 LVIGGLFPIDSRTIPANESILEPASAKCEGFNFQR-FRWMKAMIHMIKEINKRKDILPNI 111
         |:||||||||| : :                ||:||:|||:|||||||||||||:
Db    39 LVLGGLFPINEKGTGTEB--------CRGINEDRGIQRLEAMLFAIDBINKDNVLLPGV 89

Qy   112 TLGYQIFDTC----FTISKSVEAVLVFLTGQEENRPNFRNSTGAPP----------AGIVG 158
         ||||:||| |    ||::|:|::|:||  |: : ::
Db    90 KLGVHILDTCSRDTVALEQSLBFVRASLTKVDB--ABYMCPDGSYAIQENIPLLIAGVIG 147

Qy   159 AGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQH 218
         |:||:|| :|:||||||:||||||||||||:||||||:||||||||||||:||||||:|||
Db   148 GSYSSVIQVANLLRLFQIPQISYASTSAKLSDKSRYDYFARTVPPDFYQAKAMABILRY 207

Qy   219 F 219
         F
Db   208 F 208

RESULT 7
JC2132
metabotropic glutamate receptor 5 A - human
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1995 #sequence_revision 07-Oct-1994 #text_change 05-Jan-1996
C;Accession: JC2132
R;Minakami, R.; Katsuki, F.; Yamamoto, T.; Nakamura, K.; Sugiyama, H.
Biochem. Biophys. Res. Commun. 199, 1136-1143, 1994
A;Title: Molecular cloning and the functional expression of two isoforms of human metab
A;Reference number: JC2131; MUID:9419769б; PMID:7908515
A;Accession: JC2132
A;Molecule type: mRNA
A;Residues: 1-1180  <MIN>
C;Comment: This protein is coupled to guanine nucleotide binding proteins.
C;Keywords: glycoprotein; neurotransmitter; receptor; transmembrane protein
F;580-604/Domain: transmembrane #status predicted  <TM1>
F;617-637/Domain: transmembrane #status predicted  <TM2>
F;644-664/Domain: transmembrane #status predicted  <TM3>
F;694-714/Domain: transmembrane #status predicted  <TM4>
F;738-759/Domain: transmembrane #status predicted  <TM5>
F;773-794/Domain: transmembrane #status predicted  <TM6>
F;803-827/Domain: transmembrane #status predicted  <TM7>

  Query Match    19.9%;     Score 227;  DB 2;  Length 1180;
  Best Local Similarity   30.6%;   Pred. No. 5.9e-13;
  Matches   56;  Conservative  44;  Mismatches  59;  Indels  24;  Gaps  7;

Qy    53 LVIGGLFPIDSRTIPANESILEPASAKC---EGFNFQRFRWMKAMIHMIKEINKRKDIL 108
         ||||||||:||||:||: : :|||||||    ::|:||| : :|||||||||||:  :|
Db    35 IIIGALFSVHHQ---PTVDKVHB---RKCGAVREQYGIQR---VEAMLHTLERINSDPTLL 86

Qy   109 PNITLGYQIFDTCF----TISKSVEAVLVFLTGQBENRPNFR---NSTGAPPA----GI 156
         |||||||:| |||:    |::|:|::|:||:| |::::| :|   :| |  :: :
Db    87 PNITLGCBIRDSCWHSAVALEQSIBFIRDSLISSBBBGLVRCVDGSSSSFRSKPIVGV 146

Qy   157 VGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRI 216
         ||:||:|| :|:|||||||:|||||||||||:||||||:|||||||||||:|| |||:|
Db   147 IGPGSSSVAIQVQNLLQLFNIPQIAYSATSMDLSDKTLFKYFMRVVFSDAQQARAMVDIV 206

Qy   217 QHF 219
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```
Db  207 KRY 209
         : :
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RESULT 8
JC2131
metabotropic glutamate receptor 5 B - human
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1985 #sequence_revision 07-Oct-1994 #text_change 05-Jan-1996
C;Accession: JC2131
R;Minakami, R.; Katsuki, F.; Yamamoto, T.; Nakamura, K.; Sugiyama, H.
Biochem. Biophys. Res. Commun. 199, 1136-1143, 1994
A;Title: Molecular cloning and the functional expression of two isoforms of human metabo
A;Reference number: JC2131; MUID:94197696; PMID:7908515
A;Accession: JC2131
A;Molecule type: mRNA
A;Residues: 1-1212 <MIN>
C;Comment: This protein is coupled to guanine nucleotide binding proteins.
C;Keywords: glycoprotein; neurotransmitter; receptor; transmembrane protein
F;580-604/Domain: transmembrane #status predicted <TM1>
F;617-637/Domain: transmembrane #status predicted <TM2>
F;644-664/Domain: transmembrane #status predicted <TM3>
F;694-714/Domain: transmembrane #status predicted <TM4>
F;738-759/Domain: transmembrane #status predicted <TM5>
F;773-794/Domain: transmembrane #status predicted <TM6>
F;803-827/Domain: transmembrane #status predicted <TM7>

Query Match   19.9%; Score 227; DB 2; Length 1212;
Best Local Similarity   30.6%; Pred. No. 6.1e-13;
Matches   56; Conservative   44; Mismatches   59; Indels   24; Gaps   7;

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Qy  53 LVIGGLFPIDSRTIPANESILEPASAKC----EGFNFQRFRWKAMIHMIKEINKRKDIL 108
Db  35 IIIGALFSVHHQ--PTVDKVHE--RKCGAVREQYGIQR--VEAMLHTLERINSDPTLL 86

Qy 109 PNITLGYQIFDTCF----TISKSVEAVLVFLTGQEENRPNFR-----NSTGAFPA----GI 156
Db  87 PNITLGCEIRDSCWHSAVALEQSIEFIRDSLISSEEEEGLVRCVDGSSSSFRSKKPIVGV 146

Qy 157 VGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRI 216
Db 147 IGPGSSVAIQVQNLLQLFNIPQIAYSATSMDLSDKTLFKYFMRVVPSDAQQARAMVDIV 206

Qy 217 QHF 219
Db 207 KRY 209
```

RESULT 9
I49142
metabotropic glutamate receptor 8 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
C;Accession: I49142
R;Duvoisin, R.M.; Zhang, C.; Ramonell, K.
J. Neurosci. 15, 3075-3083, 1995
A;Title: A novel metabotropic glutamate receptor expressed in the retina and olfactory b
A;Reference number: I49142; MUID:95239344; PMID:7722646
A;Accession: I49142
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-908 <RES>
A;Cross-references: UNIPROT:P47743; EMBL:U17252; NID:g854728; PIDN:AAA68149.1; PID:g8547
C;Genetics:
A;Gene: mGluR8
A;Superfamily: metabotropic glutamate receptor 4
C;Keywords: neurotransmitter receptor

Query Match   19.8%; Score 225.5; DB 2; Length 908;
Best Local Similarity   28.6%; Pred. No. 6e-13;
Matches   59; Conservative   41; Mismatches   75; Indels   31; Gaps   5;

```
Qy  20 FLWAELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFPIDS---RTIPANESILEPA 76

Db  21 FYWILTMQRTHSQEYAHSIRLDG----------DIILGGLFPVHAKGERGVPCGDLKKEKG 72

Qy  77 SAKCEGFNFQRFRWKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVFLT 136
Db  73 IHRLE---------AMLYAIDQTNKDPDLLSNITLGVRILDTCSRDTYALEQSLTFVQ 121

Qy 137 GQ-EENRPNFRNSTGAFP----------AGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCV 187
Db 122 ALIEKDASDVKCANGDPFIFTKPDKISGVIGAAASSVSIMVANILRLFKIPQISYASTAP 181

Qy 188 ILSDKYQFPSYLRVIASDKIQSKAVV 213
Db 182 ELSDNTRYDFFSRVVPPDSYQAQAMV 207
```

RESULT 10
A42916
metabotropic glutamate receptor mGluR5 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A42916
R;Abe, T.; Sugihara, H.; Nawa, H.; Shigemoto, R.; Mizuno, N.; Nakanishi, S.
J. Biol. Chem. 267, 13361-13368, 1992
A;Title: Molecular characterization of a novel metabotropic glutamate receptor mGluR5 co
A;Reference number: A42916; MUID:92317054; PMID:1320017
A;Accession: A42916
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1171 <ABE>
A;Cross-references: UNIPROT:P31424; GB:D10891; NID:g220813; PIDN:BAA01711.1; PID:d100218
A;Experimental source: brain
A;Note: sequence extracted from NCBI backbone (NCBIN:107749, NCBIP:107750)
C;Keywords: G protein-coupled receptor; transmembrane protein

Query Match   19.7%; Score 224.5; DB 2; Length 1171;
Best Local Similarity   30.2%; Pred. No. 1e-12;
Matches   55; Conservative   42; Mismatches   62; Indels   23; Gaps   6;

```
Qy  53 LVIGGLFPIDSRTIPANESILEPASAKC----EGFNFQRFRWKAMIHMIKEINKRKDIL 108
Db  35 IIIGALFSVHHQ--PTVDKVHE---RKCGAVREQYGIQR---VEAMLHTLERINSDPTLL 86

Qy 109 PNITLGYQIFDTCF----TISKSVEAVLVFLTGQEENRPNFRNSTGAFP------AGIV 157
Db  87 PNITLGCEIRDSCWHSAVALEQSIEFIRDSLISSEEEEGLVRCVDGSSSFRSKKPIVGVI 146

Qy 158 GAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQ 217
Db 147 GPGSSSVAIQVQNLLQLFNIPQIAYSATSMDLSDKTLFKYFMRVRVVPSDAQQARAMVDIVK 206

Qy 218 HF 219
Db 207 RY 208
```

RESULT 11
JH0563
metabotropic glutamate receptor 4 precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 09-Jul-2004
C;Accession: JH0563; I58149
R;Tanabe, Y.; Masu, M.; Ishii, T.; Shigemoto, R.; Nakanishi, S.
Neuron 8, 169-179, 1992
A;Title: A family of metabotropic glutamate receptors.
A;Reference number: JH0561; MUID:9211002; PMID:1309649
A;Accession: JH0563
A;Molecule type: mRNA
A;Residues: 1-912 <TAN>
A;Cross-references: UNIPROT:P31423
A;Experimental source: brain
R;O'Hara, P.J.; Sheppard, P.O.; Thogersen, H.; Venezia, D.; Haldeman, B.A.; McGrane, V.;
Neuron 11, 41-52, 1993

A;Title: The ligand-binding domain in metabotropic glutamate receptors is related to bac
A;Reference number: I58149; MUID:93332699; PMID:8338667
A;Accession: I58149
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-123,'R',125-912 <RES>
A;Cross-references: GB:M90518; NID:g205400; PIDN:AAA93190.1; PID:g205401
C;Comment: This protein is coupled to a G protein and evokes a variety of functions by m
C;Genetics:
A;Gene: GLUR4
C;Superfamily: metabotropic glutamate receptor 4
C;Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phospho
F;1-32/Domain: signal sequence #status predicted <SIG>
F;33-912/Product: metabotropic glutamate receptor 4 #status predicted <MET>
F;588-610/Domain: transmembrane #status predicted <TRI>
F;625-645/Domain: transmembrane #status predicted <TII>
F;657-675/Domain: transmembrane #status predicted <III>
F;700-720/Domain: transmembrane #status predicted <TIV>
F;751-772/Domain: transmembrane #status predicted <TRV>
F;786-807/Domain: transmembrane #status predicted <TVI>
F;822-847/Domain: transmembrane #status predicted <VII>
F;98,301,454,484,569/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;621,689,695,859,870/Binding site: phosphate (Ser) (covalent) #status predicted

Query Match   19.6%;   Score 222.5;   DB 2;   Length 912;
Best Local Similarity   32.9%;   Pred. No. 1.1e-12;
Matches   56;   Conservative 34;   Mismatches 63;   Indels 17;   Gaps   4;

```
Qy   53 LVIGGLFPIDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNIT 112
            :|:||||||::   ||||  ::|  |||||||||||||||
Db   49 ITLGGLFPVHGR---GSEGKACGELKKEKGIH----RLEAMLFALDRINNDPDLLPNIT 100

Qy  113 LGYQIFDTCFTISKSVEAVLVFLTGQ-EENRPNFRNSTGAPP--------AGIVGAGGSF 163
            ||:|| || : |||   :  ||:                     |:|||||||
Db  101 LGARILDTCSRDTHALEQSLTFVQALIEKDGTEVRCGSGGPPIITKPERVVGVIGASGSS 160

Qy  164 LSVPASRILGLYYLPQVGYTSTCVILSDKYQPPSYLRVIASDKIQSKAVV 213
            :|: |||  || |||   || ||| :|   |   ||
Db  161 VSIMVANILRLFKIPQISYASTAPDLSDNSRYDFFSRVVPSDTYQAQAMV 210
```

RESULT 12
JH0562
metabotropic glutamate receptor 3 precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 09-Jul-2004
C;Accession: JH0562
R;Tanabe, Y.; Masu, M.; Ishii, T.; Shigemoto, R.; Nakanishi, S.
Neuron 8, 169-179, 1992
A;Title: A family of metabotropic glutamate receptors.
A;Reference number: JH0561; MUID:92110002; PMID:1309649
A;Accession: JH0562
A;Molecule type: mRNA
A;Residues: 1-879 <TAN>
A;Cross-references: UNIPROT:P31422
A;Experimental source: brain
C;Comment: This protein is coupled to a G protein and evokes a variety of functions by m
C;Superfamily: metabotropic glutamate receptor 4
C;Keywords: G protein-coupled receptor; glycoprotein; phosphoprotein; transmembrane prot
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-879/Product: metabotropic glutamate receptor 3 #status predicted <MET>
F;577-599/Domain: transmembrane #status predicted <TRI>
F;614-634/Domain: transmembrane #status predicted <TII>
F;646-664/Domain: transmembrane #status predicted <III>
F;689-709/Domain: transmembrane #status predicted <TIV>
F;735-756/Domain: transmembrane #status predicted <TRV>
F;770-791/Domain: transmembrane #status predicted <TVI>
F;804-828/Domain: transmembrane #status predicted <VII>
F;209,292,414,439/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;610,845/Binding site: phosphate (Ser) (covalent) #status predicted

Query Match   19.5%;   Score 221.5;   DB 2;   Length 879;
Best Local Similarity   30.9%;   Pred. No. 1.4e-12;

Matches   56;   Conservative 35;   Mismatches 65;   Indels 25;   Gaps   5;

```
Qy   53 LVIGGLFPIDSRTIPANESILEPASAKCEGFNFQR-FRWMKAMIHMIKEINKRKDILPNI 111
            ||:|||:||
Db   39 LVLGGLFPINBKGTGTBB---------CGRINEDRGIQRLEAMLPAIDEINKDNYLLPGV 89

Qy  112 TLGYQIFDTC---FTISKSVEAVLVFLTGQEENRPNFRNSTGAFP-------AGIVG 158
            :|::|||    ::|:|                                :|||
Db  90 KLGVHILDTCSRDTYALEQSLBFVRASLTKVDB--ABYMCPDGSYAIQENIPLLIAGVIG 147

Qy  159 AGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQPPSYLRVIASDKIQSKAVVKRIQH 218
            :||: :|: |:|:|       |:|   ::: :::  :
Db  148 GSYSSVSIQVANLLRLFQIPQISYASTSAKLSDKSRYDFFARTVPPDFYQAKAMAEILRF 207

Qy  219 F 219

Db  208 F 208
```

RESULT 13
A49874
metabotropic glutamate receptor 7 - rat
N;Alternate names: metabotropic glutamate receptor mGluR7
C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-1996
C;Accession: A49874; I57954
R;Okamoto, N.; Hori, S.; Akazawa, C.; Hayashi, Y.; Shigemoto, R.; Mizuno, N.; Nakanishi
J. Biol. Chem. 269, 1231-1236, 1994
A;Title: Molecular characterization of a new metabotropic glutamate receptor mGluR7 cou
A;Reference number: A49874; MUID:94117433; PMID:8288585
A;Accession: A49874
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-915 <RES>
A;Cross-references: UNIPROT:P35400; GB:D16817; NID:g458728; PIDN:BAA04092.1; PID:g458728
R;Saugstad, J.A.; Kinzie, J.M.; Mulvihill, B.R.; Segerson, T.P.; Westbrook, G.L.
Mol. Pharmacol. 45, 367-372, 1994
A;Title: Cloning and expression of a new member of the L-2-amino-4-phosphonobutyric aci
A;Reference number: I57954; MUID:94195260; PMID:8145723
A;Accession: I57954
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-915 <RE2>
A;Cross-references: EMBL:U06832; NID:g459657; PIDN:AAA20655.1; PID:g459658
C;Genetics:
A;Gene: MGLUR7
C;Superfamily: metabotropic glutamate receptor 4
C;Keywords: neurotransmitter receptor

Query Match   19.4%;   Score 220.5;   DB 2;   Length 915;
Best Local Similarity   29.2%;   Pred. No. 1.8e-12;
Matches   50;   Conservative 41;   Mismatches 61;   Indels 19;   Gaps   4;

```
Qy   53 LVIGGLFPIDSRTIPANESILEPASAKCEGFNFQR-FRWMKAMIHMIKEINKRKDILPNI 111
            |:|||:|:
Db   49 VTLGGLFPVHAK----------GPSGVPCGDIKRENGIHRLEAMLYALDQINSDPNLLPNV 99

Qy  112 TLGYQIFDTCFTISKSVEAVLVFLTGQ-EENRPNFRNSTGAPP--------AGIVGAGGS 162
            :|::|||  |:  || :|                                :|||:|||
Db 100 TLGARILDTCSRDTYALEQSLTFVQALIQKDTSDVRCTNGBPPVFVKPEKVVGVIGASGS 159

Qy  163 FLSVPASRILGLYYLPQVGYTSTCVILSDKYQPPSYLRVIASDKIQSKAVV 213
            :|: |||  || :||                  :| |:|
Db 160 SVSIMVANILRLFQIPQISYASTAPELSDDRRYDFFSRVVPPDSFQAQAMV 210
```

RESULT 14
JC7683
taste receptor T1R3 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 09-Jul-2004
C;Accession: JC7683
R;Kitagawa, M.; Kusakabe, Y.; Miura, H.; Ninomiya, Y.; Hino, A.

```
Biochem. Biophys. Res. Commun. 283, 236-242, 2001
A;Title: Molecular genetic identification of a candidate receptor gene for sweet taste.
A;Reference number: JC7683; MUID:21222875; PMID:11322794
A;Contents: tongue
A;Accession: JC7683
A;Molecule type: mRNA
A;Residues: 1-858 <KIT>
A;Cross-references: UNIPROT:Q91VA4; DDBJ:AB049994
C;Comment: This protein, a seven-transmembrane receptor, serves as a mediator of the sig
C;Genetics:
A;Gene: tlr3
A;Map position: 4
C;Superfamily: metabotropic glutamate receptor 4
C;Keywords: transmembrane protein


Query Match      19.1%;  Score 217.5;  DB 2;  Length 858;
Best Local Similarity   30.8%;  Pred. No. 3.2e-12;
Matches    52;  Conservative   36;  Mismatches   78;  Indels    3;  Gaps    2;

Qy     54 VIGGLFPIDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITL 113
          ::||||| :                :|   : ::|         | :  :
Db     36 ILGGLFPLGSTEEATLNQRTQFNSIPCNRFSPLGLFLAMAMKMAVEEINNGSALLPGLRL 95

Qy    114 GYQIFDTCFTISKSVEAVLVFLTG-QEENRPNFRNSTGAFP--AGIVGAGGSFLSVPASR 170
           : ||||    :::  ||| |        ::     |   ||       ||  :|  ::|
Db     96 GYDLFDTCSEPVVTMKSSLMFLAKVGSQSIAAYCNYTQYQPRVLAVIGPHSSELALITGK 155

Qy    171 ILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
          |  ::||||||||||||::||||| : |||   :|||| |  : |:|
Db    156 FFSFFLMPQVSYSASMDRLSDRETFPSFFRTVPSDRVQLQAVVTLLQNF 204


RESULT 15
A41939
G protein-coupled glutamate receptor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
R;Houamed, K.M.; Kuijper, J.L.; Gilbert, T.L.; Haldeman, B.A.; O'Hara, P.J.; Mulvihill,
Science 252, 1318-1321, 1991
A;Title: Cloning, expression, and gene structure of a G protein-coupled glutamate recept
A;Reference number: A41939; MUID:92022526; PMID:1655624
A;Accession: A41939
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: nucleic acid
A;Residues: 1-1199 <HOU>
A;Cross-references: UNIPROT:P23385; GB:M61099; NID:g397806; PIDN:AAA19497.1; PID:g2044060
A;Experimental source: cerebellum
A;Note: sequence extracted from NCBI backbone (NCBIP:60785)
R;Masu, M.; Tanabe, Y.; Tsuchida, K.; Shigemoto, R.; Nakanishi, S.
Nature 349, 760-765, 1991
A;Title: Sequence and expression of a metabotropic glutamate receptor.
A;Reference number: S15362; MUID:91156047; PMID:1847995
A;Accession: S15362
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1199 <MAS>
A;Cross-references: EMBL:X57569; NID:g56646; PIDN:CAA40799.1; PID:g56647
C;Keywords: G protein-coupled receptor; transmembrane protein


Query Match      18.9%;  Score 215;  DB 2;  Length 1199;
Best Local Similarity   30.3%;  Pred. No. 8.2e-12;
Matches    56;  Conservative   42;  Mismatches   57;  Indels   30;  Gaps    8;

Qy     53 LVIGGLFPIDSRTIPANESILEPASAKC----EGFNFQRFRWMKAMIHMIKEINKRKDIL 108
          :||||| :        :  :         ::|       | :     ::| || :|
Db     45 VIIGALFSVHHQ--PPAEKVPE--RKCGEIREQYGIQR---VEAMFHTLDKINADPVLL 96

Qy    109 PNITLGYQIFDTCF---TISKSVRAV--LVFLTCQEENRPNFRNSTGAFP-------- 153
          |||| :      :            ::              ::|
Db     97 PNITLGSEIRDSCWHSSVALEQSIEFIRDSLISIRDEKDGLNRCLPDGQTLPPGRTKPI 156

Qy    154 AGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKA-- 211
```

Db 157 ||::||| | ::: |||
         AGVIGPGSSSVAIQVQNLLQLFDIPQIAYSARTSIDLSDKTLYKIFPLRVVPSDTLQARAML 216

Qy 212 -VVKR 215
         :|||
Db 217 DIVKR 221

Search completed: February 16, 2005, 16:37:52
Job time : 10.0413 secs